

**MINOLTA MAXXUM AF ZOOM 35-105mm F3.5-F4.5 (2554-600)**

## FOCUSING

Focusing : AF, FA, M

Type : Front-component focusing

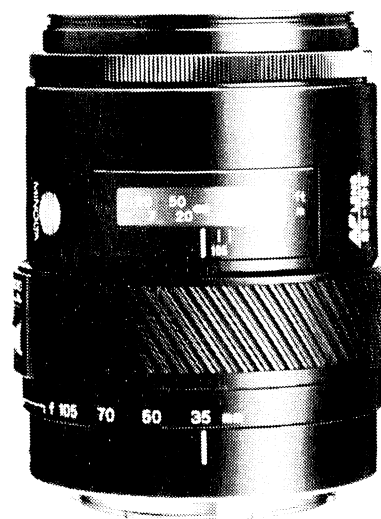
Minimum focusing distance : 1.5m

Distance scale :  $\frac{5}{1.5} \quad \frac{6}{1.7} \quad \frac{7}{2} \quad \frac{8}{2.5} \quad \frac{12}{1} \quad \frac{20}{7} \quad \frac{50}{20} \quad \frac{\infty}{\infty}$  (ft) (m)

Infrared correction scale :  $\left( \begin{array}{cc|cc} | & | & | & | \\ 105 & (70) & (50) & 35 \end{array} \right)$

Depth-of-field scale : No

With macro capability :  $\frac{1}{4} \times$  (max. magnification),  
"AF" impossible



Type : Mechanical-compensation  
zoom lens, Rotary 2-ring

Zooming scale : 105 70 50 35

Zooming ratio :  $3\times$

Dimensions :  $\phi 68.5$  (max. diameter)  $\times$   
87 mm (max. length)

Weight : 495 g

Filter-thread diameter :  $\phi 55$  mm (P=0.75)

Lens hood diameter :  $\phi 55$  mm (clip-on)

Lens case (LH-1033)  
 Lens hood (6554-810)

I N D E X

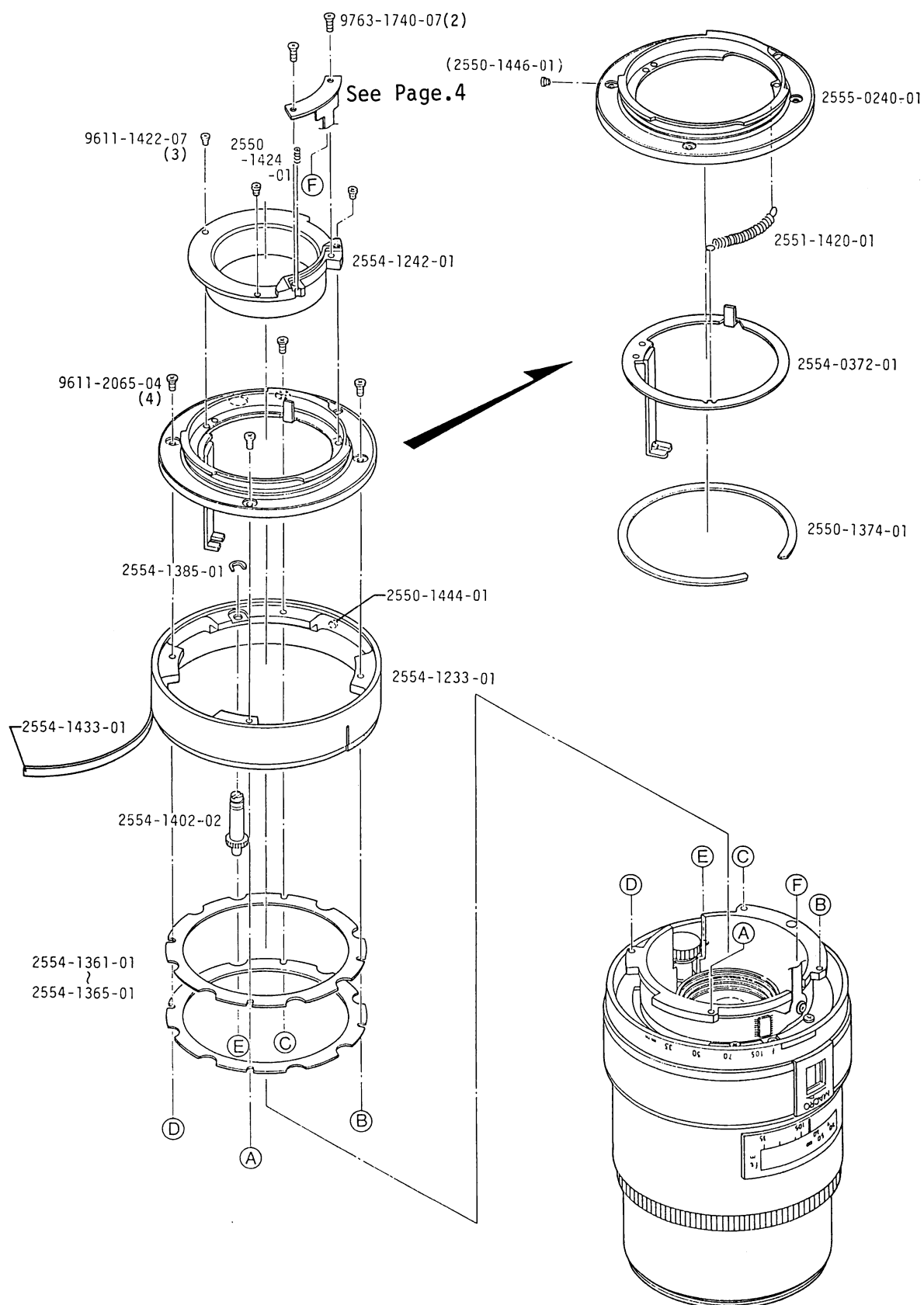
Part No.	Page	Part No.	Page	Part No.	Page
2554-0044-----6		2554-1112-----5		2554-1364-----1	
2554-0113-----5		2525-1114-----6		2554-1365-----1	
2554-0131-----6		2525-1115-----6		2550-1374-----1	
2555-0240-----1		2525-1116-----6		2554-1378-----2	
2554-0371-----5		2554-1130-----5		2554-1379-----5	
2554-0372-----1				2555-1380-----2	
2554-0383-----2		2554-1230-----4		2554-1382-----2	
2554-0411-----2		2554-1231-----5		2525-1384-----4	
2554-0430-----4		2554-1233-----1		2554-1384-----2	
2554-0810-----6		2554-1235-----3		2525-1385-----4	
2554-0820-----6		2554-1237-----2		2554-1385-----1	
		2554-1238-----3		2554-1386-----2	
2554-1102-----6		2554-1242-----1		2555-1387-----2	
2525-1103-----6		2554-1244-----5			
2525-1105-----6				2554-1402-----1	
2554-1106-----6		2554-1361-----1		2525-1413-----5	
2525-1107-----6		2554-1362-----1		2525-1414-----5	
2525-1108-----6		2554-1363-----1		2554-1416-----3	

I N D E X

Part No.	Page	Part No.	Page	Part No.	Page
2554-1417-----3		2525-1462-----5		2555-1502-----4	
2554-1418-----3		2525-1463-----5		2554-1503-----4	
2554-1419-----4		2525-1464-----5			
2551-1420-----1		2525-1465-----5		2554-1602-----6	
2554-1422-----2		2525-1466-----5			
2554-1423-----2		2525-1467-----5		2525-1803-----6	
2550-1424-----1		2525-1468-----5		2525-1804-----6	
2554-1426-----3		2525-1470-----5		2554-1805-----6	
2554-1427-----3		2525-1471-----5		2554-1808-----6	
2554-1431-----2		2525-1472-----5		2554-1812-----6	
2554-1432-----3		2525-1473-----5		2554-1813-----6	
2554-1433-----1		2525-1474-----5		2554-1814-----6	
2554-1435-----3		2525-1475-----5			
2555-1438-----4		2525-1476-----5		Screw	
2550-1444-----1		2525-1477-----5		9611-1422-07-----1	
2550-1446-----1		2525-1478-----5		9611-1625-07-----3,5	
2525-1460-----5				9611-2065-04-----1	
2525-1461-----5		2554-1501-----4		9612-1616-07-----2,4	

I N D E X

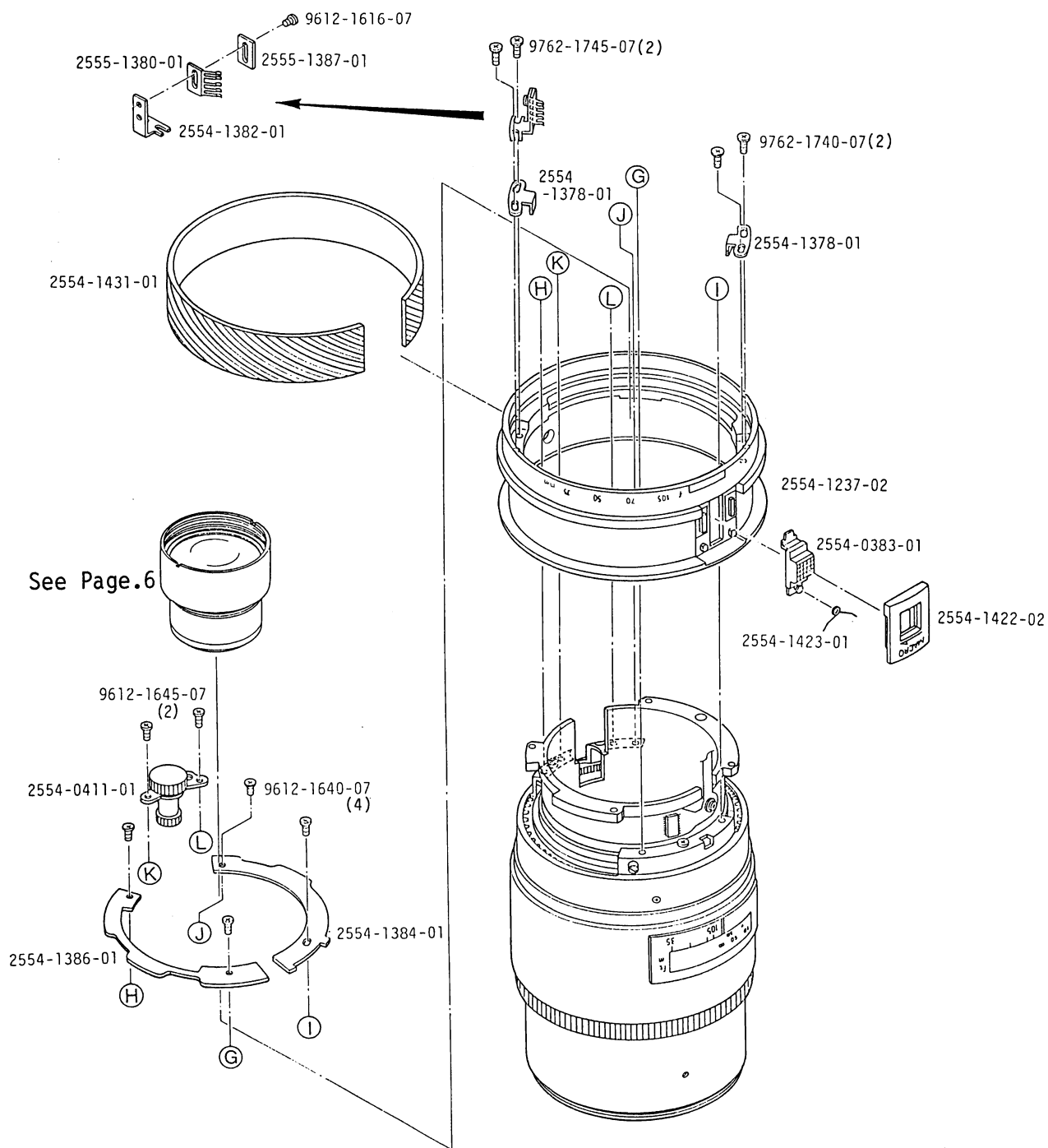
Part No.	Page	Part No.	Page	Part No.	Page
9612-1635-07-----	4				
9612-1640-07-----	2				
9612-1645-07-----	2				
9613-1622-07-----	3				
9613-1625-07-----	3				
9622-1625-02-----	3				
9762-1740-07-----	2				
9762-1745-07-----	2				
9763-1740-07-----	1				
Washer					
9792-1740-50-----	4				



Part No.	Part Name		Qty.
2555-0240-01	Bayonet mount set	バヨネットマウントセット	1
(2550-1446-01)	Screw	ストッパービス	1
2554-0372-01	Preset ring	プリセットリングセット	1
2554-1233-01	Outer barrel	外筒	1
2554-1242-01	Light shield ring	遮光筒	1
2554-1361-01	Back washer - A (t=0.05)	バックワッシャーA	} Some
2554-1362-01	Back washer - B (t=0.07)	バックワッシャーB	
2554-1363-01	Back washer - C (t=0.1)	バックワッシャーC	
2554-1364-01	Back washer - D (t=0.2)	バックワッシャーD	
2554-1365-01	Back washer - E (t=0.5)	バックワッシャーE	
2550-1374-01	Preset ring pressure	プリセットリング押え	1
2554-1385-01	C - washer	Cワッシャー	1
2554-1402-02	Coupler	カプラー	1
2551-1420-01	Main spring	メインスプリング	1
2550-1424-01	Spring	アーススプリング	1
2554-1433-01	Friction cloth-B	摩擦布B	1
2550-1444-01	Bayonet point	バヨネット標点	1
9611-1422-07	Phillips type screw	十字穴付なべ頭小ねじ	3
9611-2065-04	Phillips type screw	十字穴付なべ頭小ねじ	4
9763-1740-07	Tap tite screw	十字穴付半丸頭タップタイトねじ	2

AF ZOOM 35 ~ 105mm F3.5 ~ 4.5(22)  
 MAXXUM AF ZOOM 35 ~ 105mm F3.5 ~ 4.5(22)

Code No.2554-100  
 Code No.2554-600



Part No.	Part Name		Qty.
2554-0383-01	Macro changeover lever set	マクロ切換レバーセット	1
2554-0411-01	Gear set	ギヤーセット	1
2554-1237-02	Zoom ring	ズームリング	1
2554-1378-01	Zoom operation key	ズームカム連動板	2
2555-1380-01	Brush	ブラシ	1
2554-1382-01	Brush connecting plate	ブラシ連動板	1
2554-1384-01	Zoom ring pressure - A	ズームリング押えA	1
2554-1386-01	Zoom ring pressure - B	ズームリング押えB	1
2555-1387-01	Brush pressure plate	ブラシ押え板	1
2554-1422-02	Macro changeover lever pressure	マクロ切換レバー押え	1
2554-1423-01	Macro spring	マクロスプリング	1
2554-1431-01	Leather	貼皮	1
9612-1616-07	Phillips type screw	十字穴付なべ頭小ねじ	1
9612-1640-07	Phillips type screw	十字穴付なべ頭小ねじ	4
9612-1645-07	Phillips type screw	十字穴付なべ頭小ねじ	2
9762-1740-07	Tap tite screw	十字穴付なべ頭タップ タイトねじ	2
9762-1745-07	Tap tite screw	十字穴付なべ頭タップ タイトねじ	2



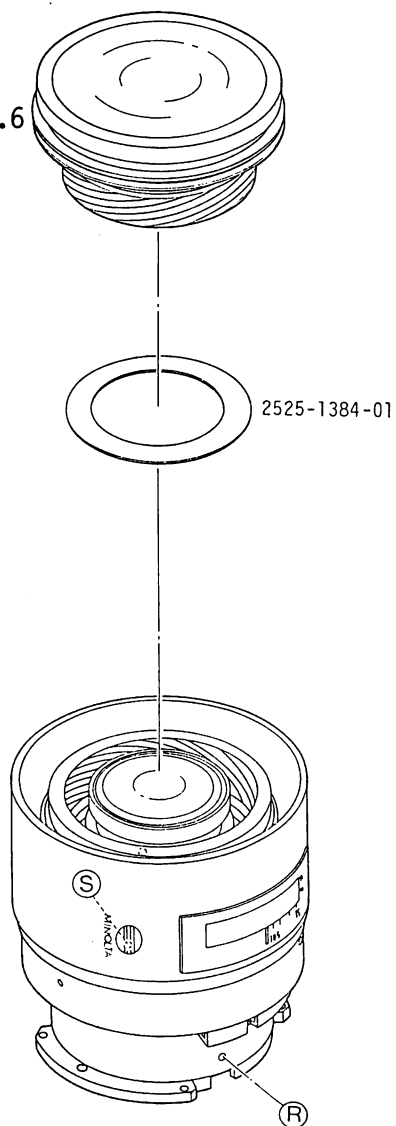


Part No.	Part Name		Qty.
2554-1235-01	Filter ring	鏡頭環	1
2554-1238-03	Focusing ring	距離リング	1
2554-1416-01	Filter ring guide pin - A (D=φ3.0)	フォーカス連動ピンA	1
2554-1417-01	Filter ring guide pin - B (D=φ3.01)	フォーカス連動ピンB	1
2554-1418-01	Filter ring guide pin - C (D=φ3.02)	フォーカス連動ピンC	1
2554-1426-01	Focus stopper	フォーカスストッパー	1
2554-1427-02	Focus guide	フォーカスガイド	1
2554-1432-01	Friction cloth - A	摩擦布A	2
2554-1435-01	Collar	カラー	1
9611-1625-07	Phillips type screw	十字穴付なべ頭小ねじ	1
9613-1622-07	Phillips type screw	十字穴付半丸頭小ねじ	3
9613-1625-07	Phillips type screw	十字穴付半丸頭小ねじ	1
9622-1625-02	Screw	とがり先止めねじ	3

AF ZOOM 35~105mm F3.5 ~ 4.5(22)  
 MAXXUM AF ZOOM 35~105mm F3.5 ~ 4.5(22)

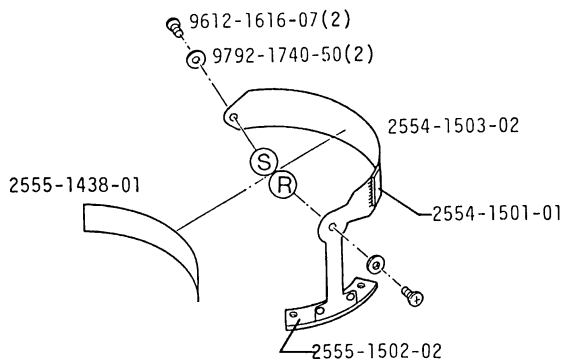
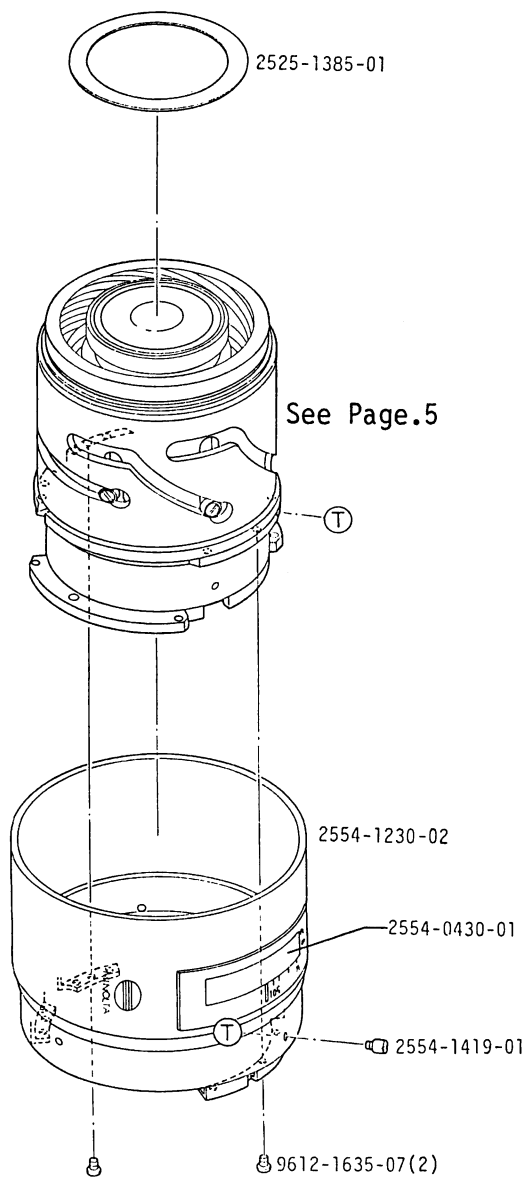
Code No.2554-100  
 Code No.2554-600

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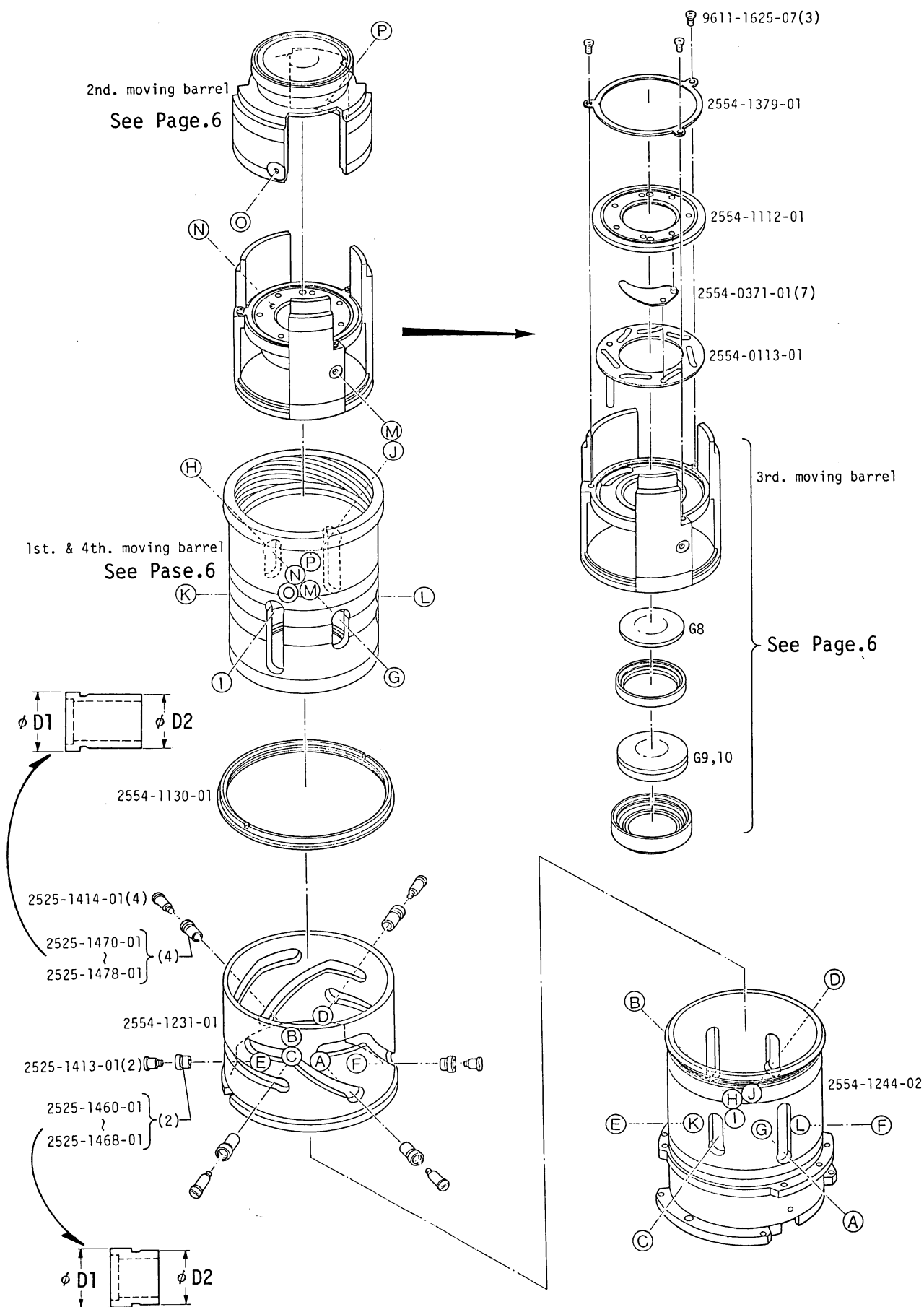


2525-1385-01

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2554-0430-01	Distance scale window set	距離表示窓セット	1
2554-1230-02	Outer ring	固定保持環	1
2525-1384-01	Light shield plate	遮光板	1
2525-1385-01	Light shield plate	遮光板	1
2554-1419-01	Zoom ring stopper	ズームリングストッパー	1
2555-1438-01	Tape	テープ	1
2554-1501-01	IC (TOSHIBA, ML00E)	IC	1
2555-1502-02	Lens contact board	信号基板	1
2554-1503-02	Flexible PC board	フレキ	1
9612-1616-07	Phillips type screw	十字穴付なべ頭小ねじ	2
9612-1635-07	Phillips type screw	十字穴付なべ頭小ねじ	2
9792-1740-50	Washer	薄ワッシャー	2



Part No.	Part Name		Qty.
2554-0113-01	Diaphragm operation plate set	絞り操作板セット	1
2554-0371-01	Diaphragm blade set	絞り羽根セット	7
2554-1112-01	Diaphragm pressure ring	絞り押え環	1
2554-1130-01	Zoom cam ring pressure	ズームカム環押え	1
2554-1231-01	Zoom cam ring	ズームカム環	1
2554-1244-02	Fixed barrel	固定筒	1
2554-1379-01	Diaphragm pressure ring pressure	絞り押え環押え	1
2525-1413-01	1st & 4th guide pin	第1,4案内ピン	2
2525-1414-01	2nd & 3rd guide pin	第2,3案内ピン	4
2525-1460-01	1st & 4th guide roller (D1=φ5.04,D2=φ4.54)	第1,4案内ローラー	2
2525-1461-01	1st & 4th guide roller (D1=φ5.04,D2=φ4.53)	第1,4案内ローラー	
2525-1462-01	1st & 4th guide roller (D1=φ5.04,D2=φ4.52)	第1,4案内ローラー	
2525-1463-01	1st & 4th guide roller (D1=φ5.03,D2=φ4.54)	第1,4案内ローラー	
2525-1464-01	1st & 4th guide roller (D1=φ5.03,D2=φ4.53)	第1,4案内ローラー	
2525-1465-01	1st & 4th guide roller (D1=φ5.03,D2=φ4.52)	第1,4案内ローラー	
2525-1466-01	1st & 4th guide roller (D1=φ5.02,D2=φ4.54)	第1,4案内ローラー	
2525-1467-01	1st & 4th guide roller (D1=φ5.02,D2=φ4.53)	第1,4案内ローラー	
2525-1468-01	1st & 4th guide roller (D1=φ5.02,D2=φ4.52)	第1,4案内ローラー	4
2525-1470-01	2st & 3rd guide roller (D1=φ5.04,D2=φ4.54)	第2,3案内ローラー	
2525-1471-01	2st & 3rd guide roller (D1=φ5.04,D2=φ4.53)	第2,3案内ローラー	
2525-1472-01	2st & 3rd guide roller (D1=φ5.04,D2=φ4.52)	第2,3案内ローラー	
2525-1473-01	2st & 3rd guide roller (D1=φ5.03,D2=φ4.54)	第2,3案内ローラー	
2525-1474-01	2st & 3rd guide roller (D1=φ5.03,D2=φ4.53)	第2,3案内ローラー	
2525-1475-01	2st & 3rd guide roller (D1=φ5.03,D2=φ4.52)	第2,3案内ローラー	
2525-1476-01	2st & 3rd guide roller (D1=φ5.02,D2=φ4.54)	第2,3案内ローラー	
2525-1477-01	2st & 3rd guide roller (D1=φ5.02,D2=φ4.53)	第2,3案内ローラー	3
2525-1478-01	2st & 3rd guide roller (D1=φ5.02,D2=φ4.52)	第2,3案内ローラー	
9611-1625-07	Phillips type screw	十字穴付なべ頭小ねじ	3

AF ZOOM 35 ~ 105mm F3.5 ~ 4.5(22)

Code No.2554-100

MAXXUM AF ZOOM 35 ~ 105mm F3.5 ~ 4.5(22)

Code No.2554-600

■ When repairing following parts, must be checked resolving power by projection.

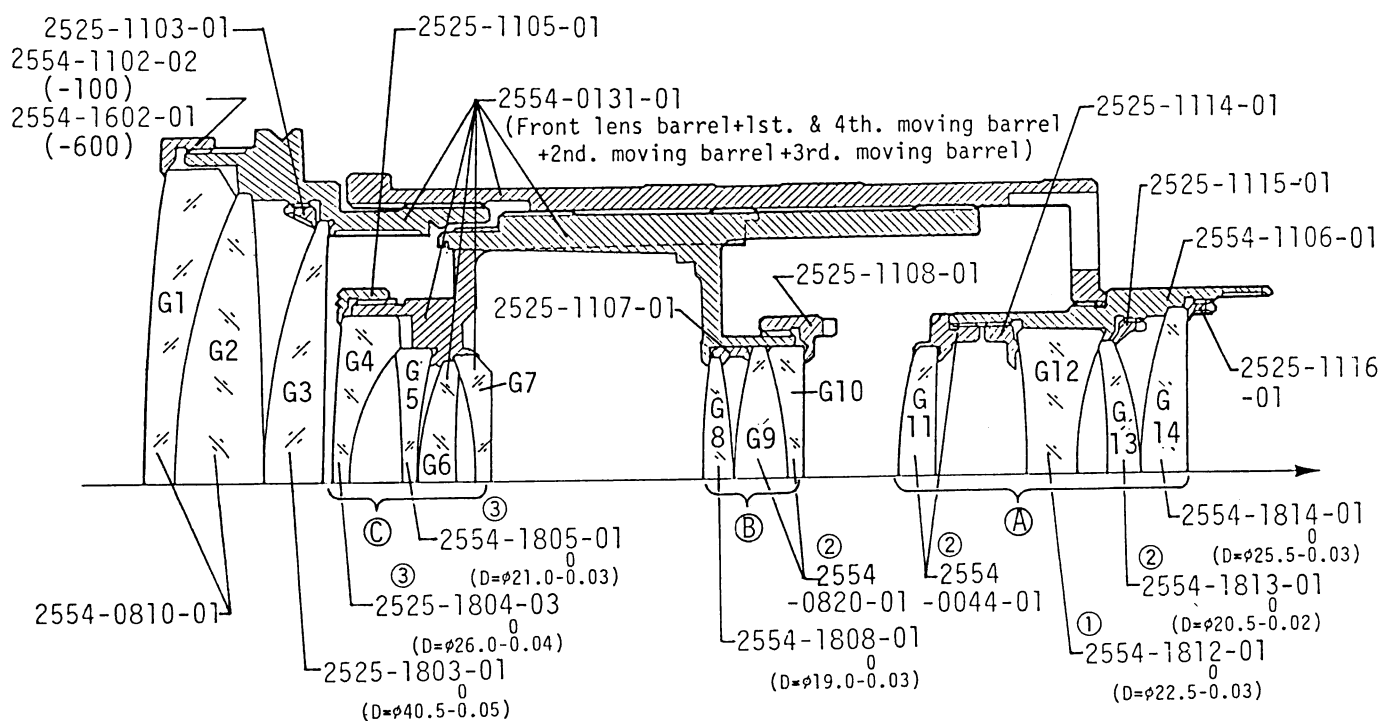
■ 下記部品を修理した場合は、必ず投影解像力を確認して下さい。

①: The influential lens element in the lens performance. (Number shows in order.)

①: レンズ性能によく影響するレンズ。(数字は順位を示す)

④: The influential lens group in the lens performance. (Influence: In alphabetical order)

④: レンズ性能によく影響するレンズ群。(影響度: アルファベット順)



Part No.	Part Name	Qty.
2554-0044-01	G11 barrel set	1
2554-0131-01	Helicoid set	1
2554-0810-01	G1,G2, set	1
2554-0820-01	G9,G10 set	1
2554-1102-02	G1 pressure ring (-100)	1
2525-1103-01	G3 pressure ring	1
2525-1105-01	G4 pressure ring	1
2554-1106-01	Rear lens barrel	1
2525-1107-01	G8,G9 space washer	1
2525-1108-01	G10 pressure ring	1
2525-1114-01	G12 pressure ring	1
2525-1115-01	G13 pressure ring	1
2525-1116-01	G14 pressure ring	1
2554-1602-01	G1 pressure ring (-600)	1
2525-1803-01	Lens - G3	1
2525-1804-03	Lens - G4	1
2554-1805-01	Lens - G5	1
2554-1808-01	Lens - G8	1
2554-1812-01	Lens - G12	1
2554-1813-01	Lens - G13	1
2554-1814-01	Lens - G14	1
	G11玉枠セット	1
	ヘリコイドセット	1
	G1,G2セット	1
	G9,G10セット	1
	G1押え	1
	G3押え	1
	G4押え	1
	第4群玉枠	1
	G8,G9間隔ワッシャー	1
	G10押え	1
	G12押え	1
	G13押え	1
	G14押え	1
	G1押え	1
	レンズG3	1
	レンズG4	1
	レンズG5	1
	レンズG8	1
	レンズG12	1
	レンズG13	1
	レンズG14	1

# REPAIR GUIDE

■ The contents of this manual are in accordance with the assembling procedure. Therefore, follow the reverse procedure when disassembling.

## — Description of marks used —

■ : Adhesive

■ : Solvent

■ : Anti-diffusion compound

■ : Lubricant

■ : Tool

■ : Point of assembling and general caution

## ■ Assembling and adjusting procedure

	Page
① Fixed barrel, Zoom cam ring, 1st & 4th moving barrel assembling .....	1
② Diaphragm blade, 3rd moving barrel, G 8 , G 9, G 10 assembling .....	2
③ Temporary assembling for aperture diameter adjusting (including pre-check), Flexible PC board, Rear lens group set assembling .....	3
■ Aperture diameter adjusting (including pre-check) .....	3
④ 2nd moving barrel, Outer ring assembling .....	4
⑤ Front lens group, Focusing ring, Filter ring assembling .....	5
⑥ Zoom ring, Macro changeover lever, Brush, Gear set assembling .....	6
■ Wide stop position, macro stop position adjusting .....	6
■ Brush position adjusting .....	6
⑦ Back washer, Outer barrel, Coupler, Bayonet mount, Light shield ring, Lens contact board assembling .....	7
■ Focus shift/flange back adjusting .....	7
■ Projection resolving power checking .....	7
■ Aperture diameter checking .....	7
■ General function checking .....	7
■ Wide stop position adjusting .....	8
■ Macro stop position adjusting .....	8
■ Flexible PC board replacing .....	9
■ Description of focusing and zooming .....	10
■ Wiring schematic diagram, Printed wiring diagram .....	11

## ■ Precautions

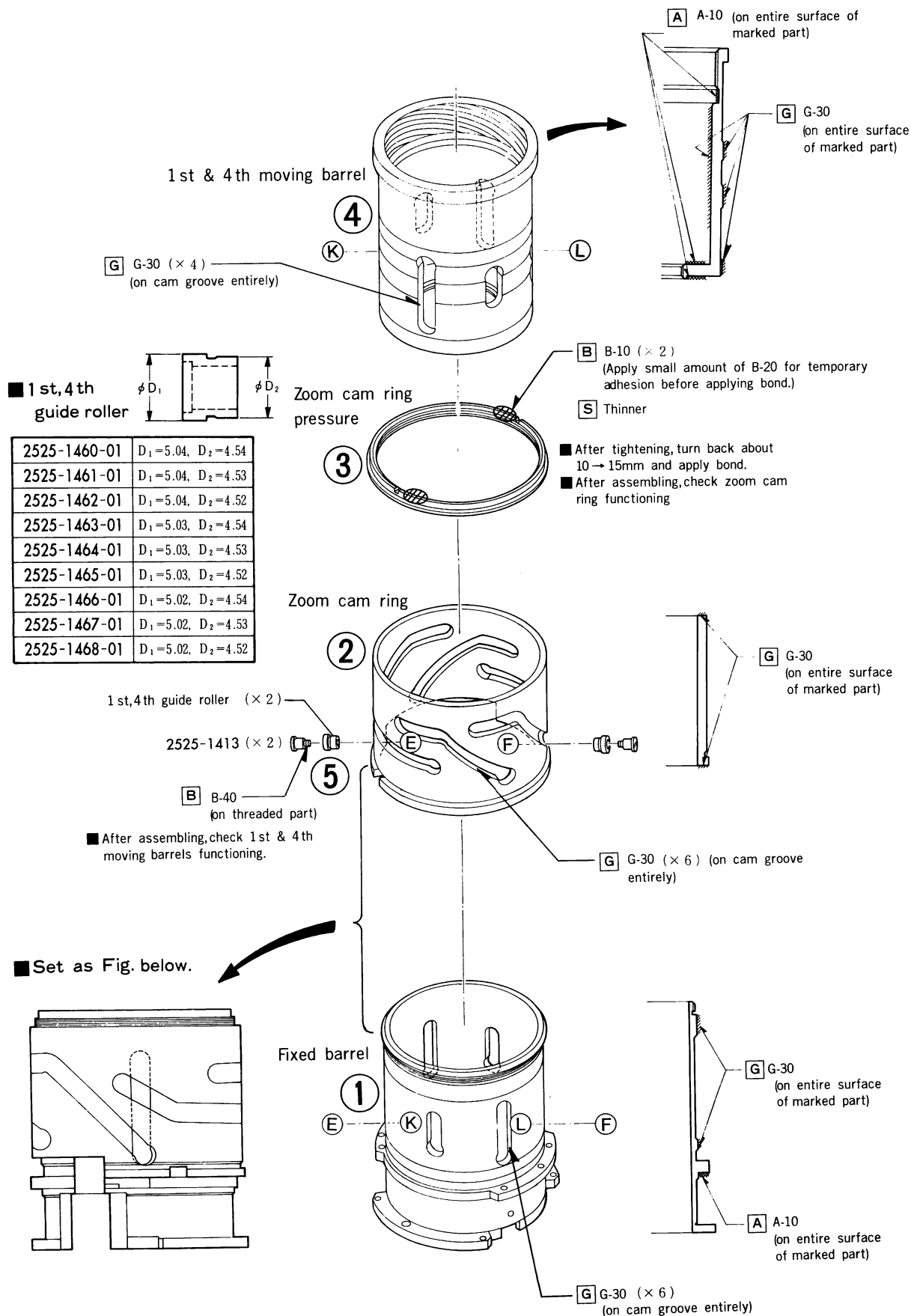
- Since this lens uses many resin parts, keep the following in mind when assembling and adjusting.
  - Use Flonsolve or alcohol when cleaning. Never use the thinner, ketone or ether.
- Since MOS-IC is used in this lens, it is necessary to take special precautions about static electricity. When performing repairs, use the conductive mat without fail, as shown.





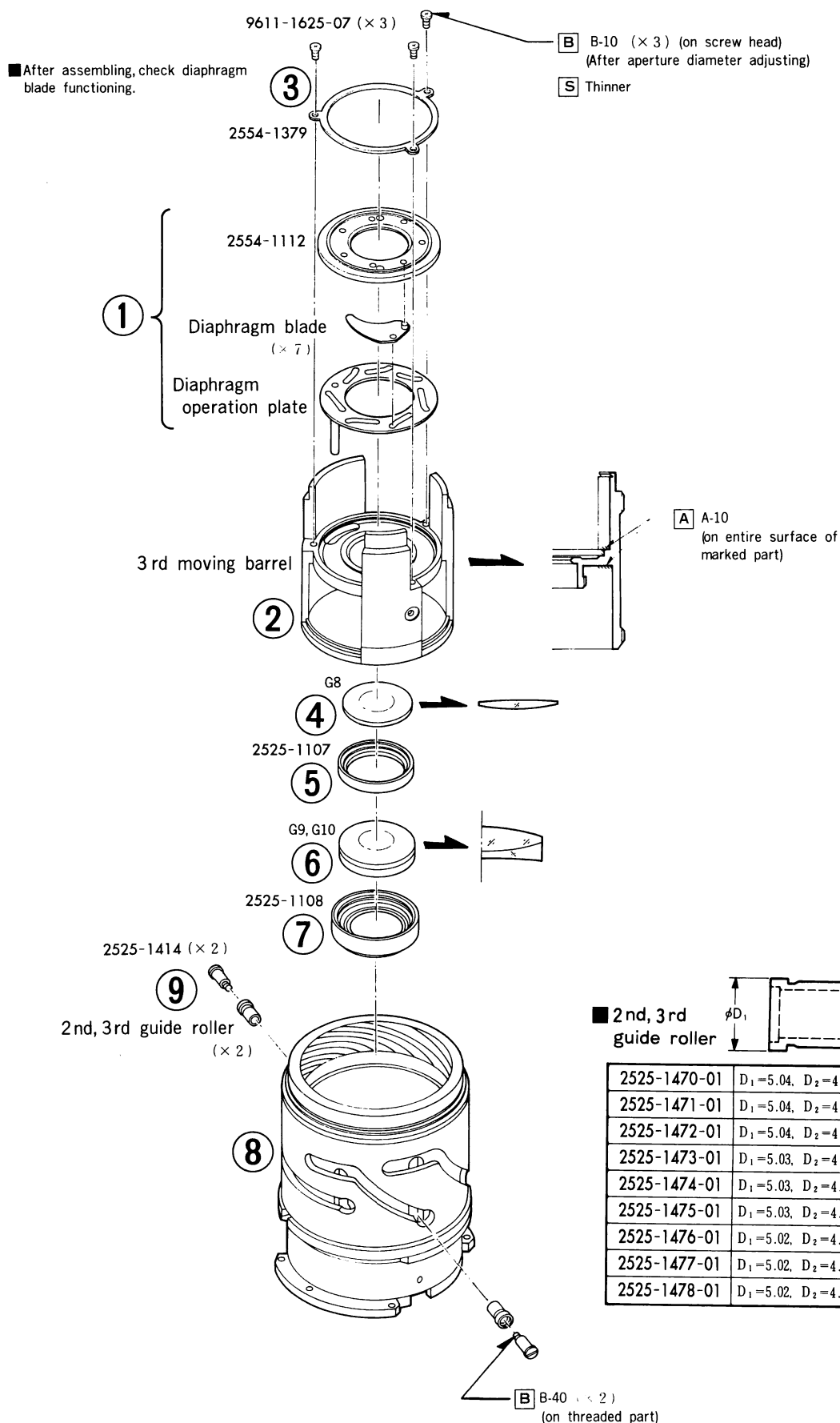
# 1 Fixed barrel, Zoom cam ring, 1st & 4th moving barrel

■ Assemble the parts in the order of ①→⑤.



## 2 Diaphragm blade, 3rd moving barrel, G8, G9, G10

■ Assemble the part in the order of ①→⑨.



### 3 Temporary assembling for aperture adjusting (including pre-check), Flexible PC board, Rear lens group set

■ Assemble the parts in the order of ①→⑨.

■ After assembling, adjust aperture diameter (including pre-check).

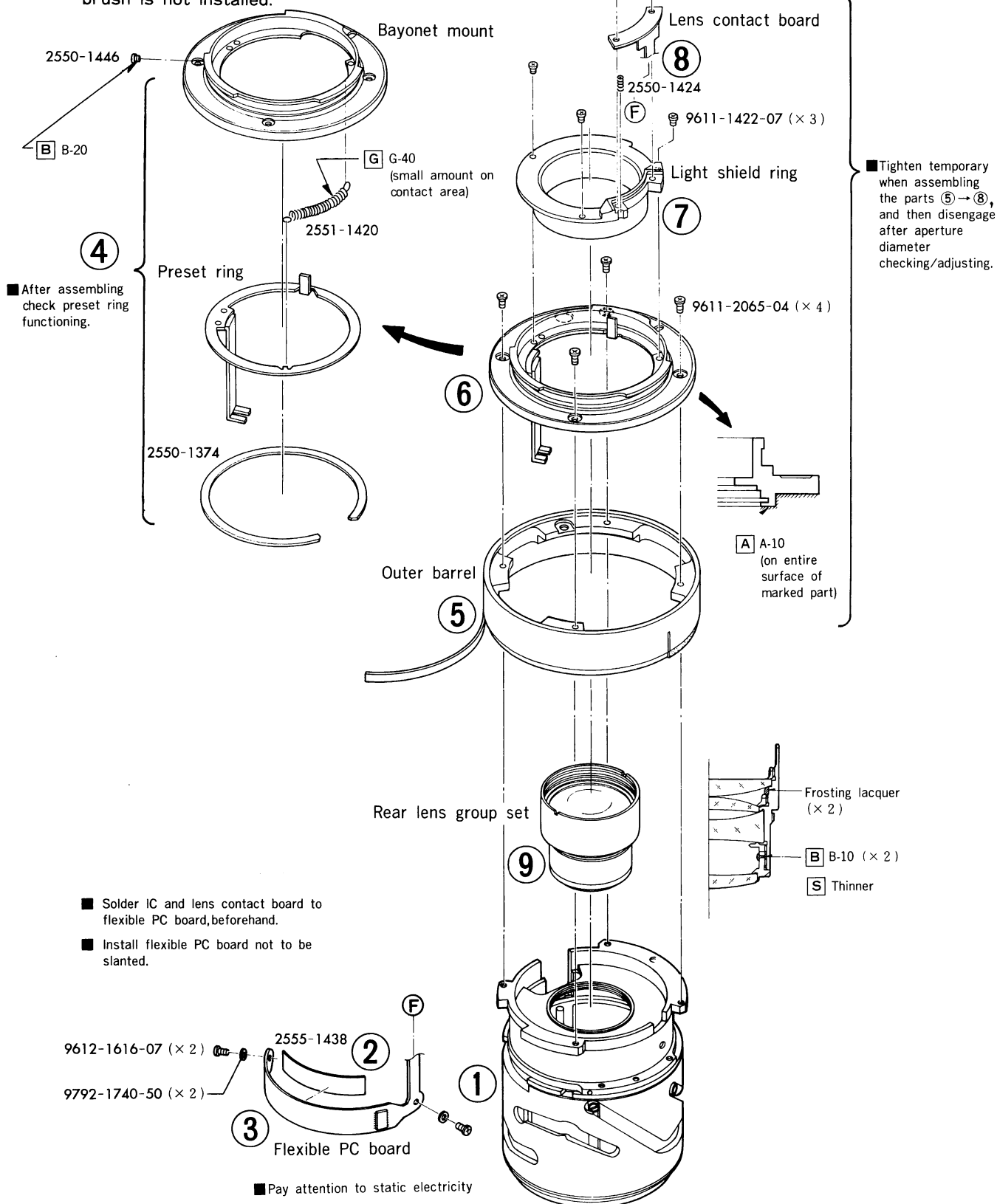
(Refer to General checking/adjusting procedure p. 8, 9)

Set focal length at 70mm (approx.), correct EE tester by

-0.1EV for "Correcting value of EE tester", since f-number (max.) of camera body indicates f/4 because brush is not installed.

9763-1740-07 (× 2)

■ Avoid excessive tightening.



## 4 2nd moving barrel set, Outer ring assembling

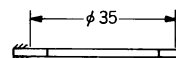
■ Assemble the parts in the order of ① → ⑤.

**B** B-10 (× 3)  
(Avoid excessive applying.)  
**S** Thinner

2525-1385

④

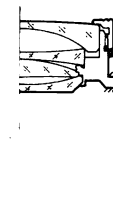
■ Fit into grooves on 3rd moving barrel set.



**A** A-10  
(on entire surface  
of marked part)

2nd moving barrel set

②



**B** B-10 (× 3)  
(Avoid excessive applying bond.)  
**S** Thinner

**A** A-10  
(on entire surface  
of marked part)

■ 2nd,3rd  
guide roller

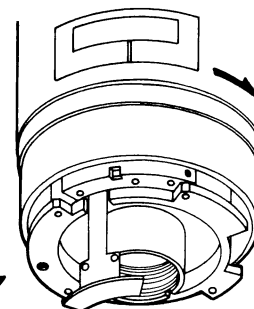


2525-1470-01	D <sub>1</sub> = 5.04, D <sub>2</sub> = 4.54
2525-1471-01	D <sub>1</sub> = 5.04, D <sub>2</sub> = 4.53
2525-1472-01	D <sub>1</sub> = 5.04, D <sub>2</sub> = 4.52
2525-1473-01	D <sub>1</sub> = 5.04, D <sub>2</sub> = 4.54
2525-1474-01	D <sub>1</sub> = 5.04, D <sub>2</sub> = 4.53
2525-1475-01	D <sub>1</sub> = 5.03, D <sub>2</sub> = 4.52
2525-1476-01	D <sub>1</sub> = 5.02, D <sub>2</sub> = 4.54
2525-1477-01	D <sub>1</sub> = 5.02, D <sub>2</sub> = 4.53
2525-1478-01	D <sub>1</sub> = 5.02, D <sub>2</sub> = 4.52

①

**B** B-40 (× 2)  
(on threaded part)

■ When assembling with outer ring, turn  
zoom cam ring in the direction of arrow  
for preventing contact of IC and outer  
ring.



2nd, 3rd guide roller (× 2)

2525-1414 (× 2)

③

■ After assembling, check 2nd  
moving barrel functioning.

Outer ring

⑤

**A** A-10  
(on entire surface  
of marked part)

**B** B-40  
(on threaded part)

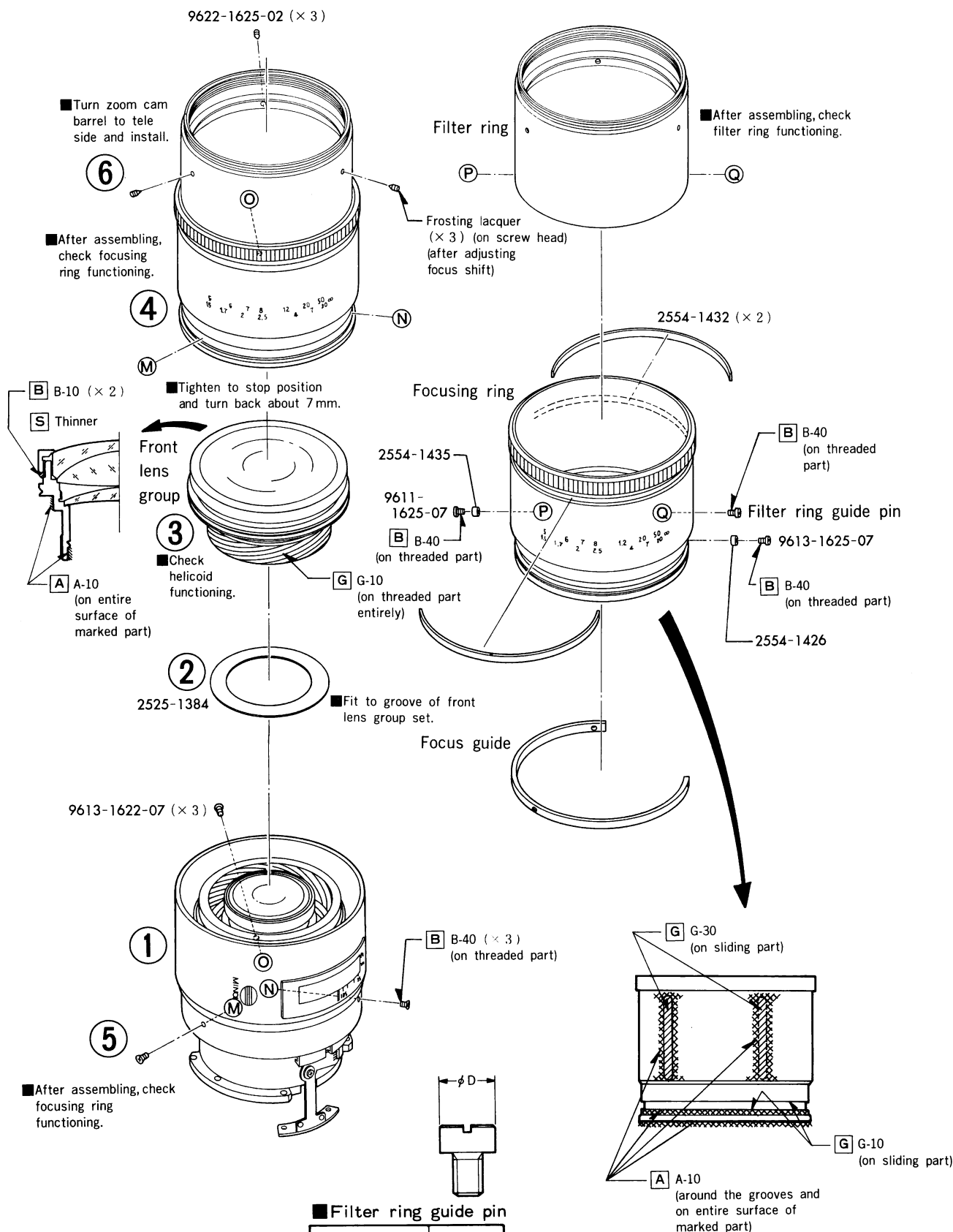
2554-1419

2554-0430

9612-1635-07 (× 2)

## 5 Front lens group, Focusing ring, Filter ring

■ Assemble the parts in the order of ①→⑥.



2554-1237

2554-1422

- (1) Scrape marked parts to install macro lever holder.
- (2) Apply bond (B-60) on marked part and install.
- (3) Check macro changeover lever functioning.

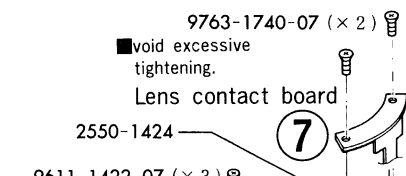
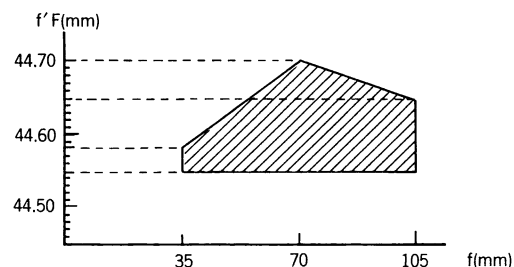
## 7 Back washer, Outer barrel, Coupler, Bayonet mount, Light shield ring, Lens contact board

■ Assemble the parts in the order of ①→⑦. After assembling, perform the checking/adjusting (1) - (4).

(1) Adjust focus shift/flange back (referring to General checking/adjusting procedure on p. 3)

Allowable range

f (mm)	f' F (mm)
35	44.55 <sup>+0.03</sup> <sub>0</sub>
70	44.55 <sup>+0.15</sup> <sub>0</sub>
105	44.55 <sup>+0.1</sup> <sub>0</sub>

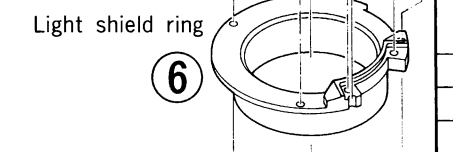


(2) Check projection resolving power (referring to General checking/adjusting procedure on p. 6).

Allowable range for Servicing (min)

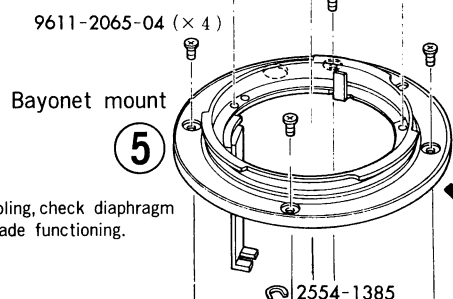
f (mm)	Distance D (m)	Center (y' = 0 mm)	y' = 15 mm	
			S	M
35	1.2→1.7	100	40	40
70	2.0→3.6	100	40	25
105	2.5→4.3	100	32	25

S : Sagittal image  
M : Meridional image

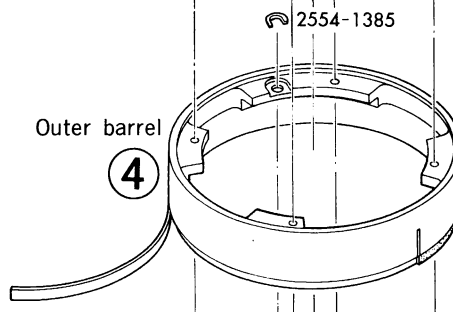


(3) Check aperture diameter (referring to General checking/adjusting procedure on p. 9).

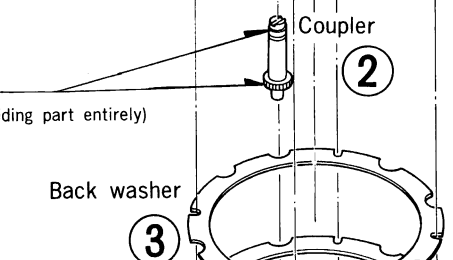
(4) Check general function (referring to General checking/adjusting procedure on p. 14).



■ After assembling, check diaphragm diaphragm blade functioning.



G G-30  
(on sliding part entirely)

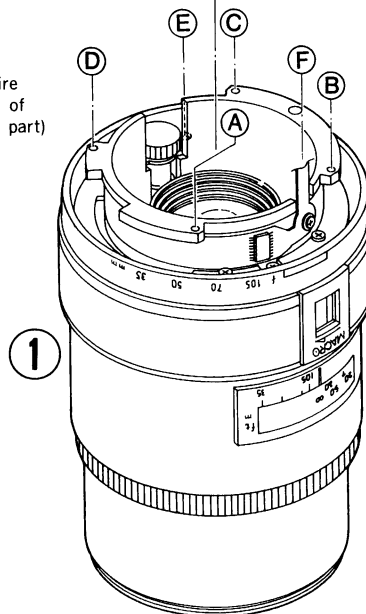


■ Back washer

2554-1361	t=0.05
2554-1362	t=0.07
2554-1363	t=0.1
2554-1364	t=0.2
2554-1365	t=0.5

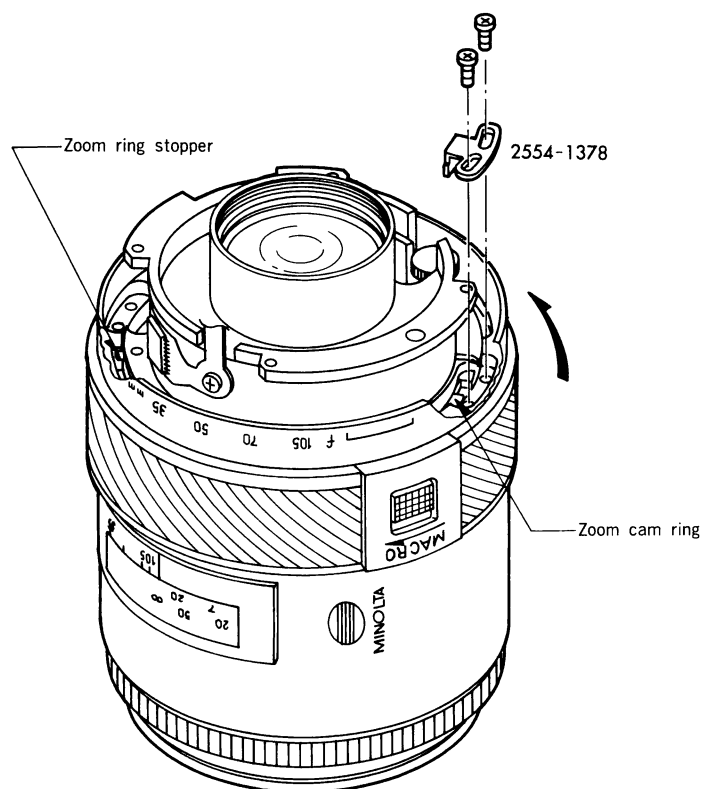


A A-10  
(on entire surface of marked part)



## Wide stop position adjusting

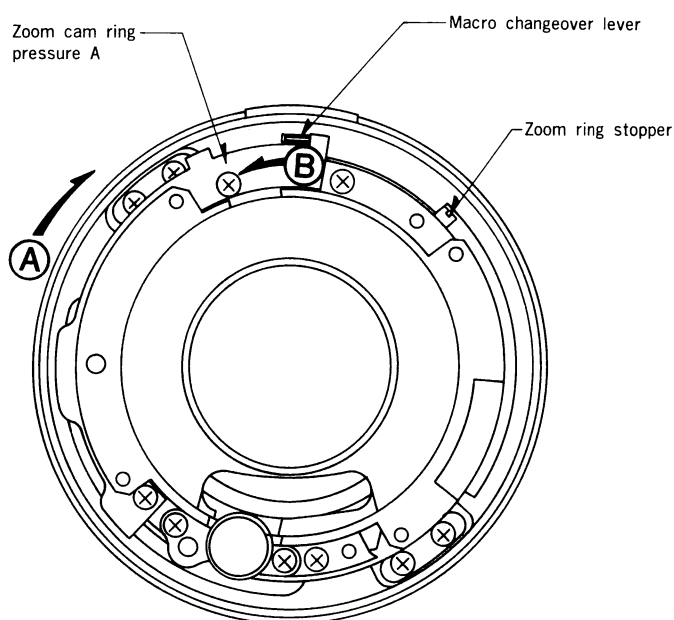
■ Fig. 1



- (1) Turn zoom cam ring and zoom ring in the direction of arrow, set at wide stop position. (See Fig. 1)
- (2) Fit zoom operation key (2554-1378) to groove on zoom cam ring, tighten screws.
- (3) Turn zoom ring several times.  
When setting at wide stop position, check if zoom ring is in contact with zoom ring stopper.

## Macro stop position adjusting

■ Fig. 1



- (1) Shift macro changeover lever, turn zoom ring in the direction of arrow ①, set at macro stop position.
- (2) Turn zoom ring pressure A in the direction of arrow ② and set at macro changeover lever, tighten screws.
- (3) Turn zoom ring several times. When setting at macro stop position (max. magnification), check if zoom ring and macro lever are in contact with stoppers, respectively.



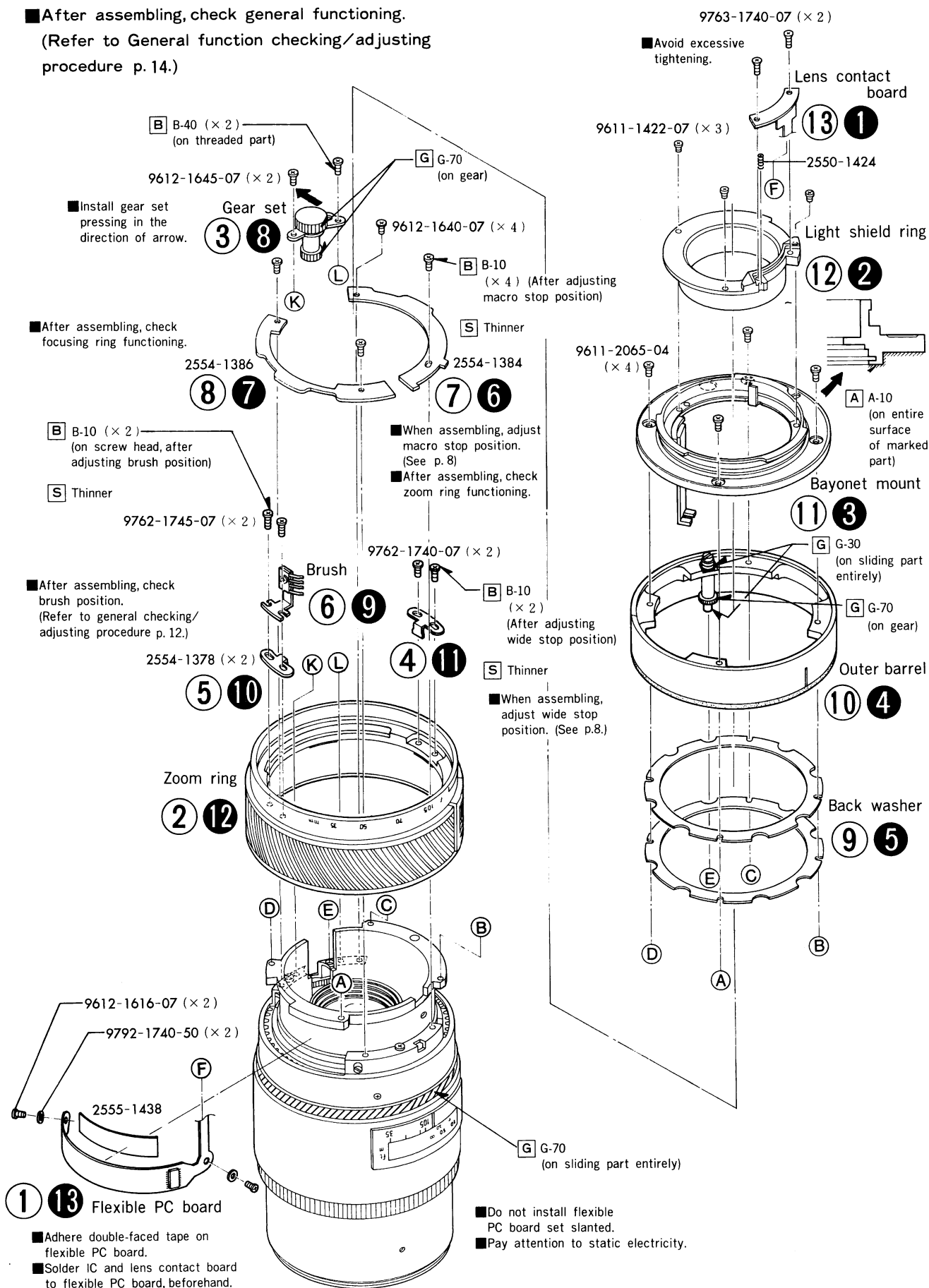
## Flexible PC board replacing

■ Disassemble the parts in the order of ① → ⑬.

■ Assemble the parts in the order of ① → ⑬.

■ After assembling, check general functioning.

(Refer to General function checking/adjusting procedure p.14.)



## ■ Description of focusing and zooming

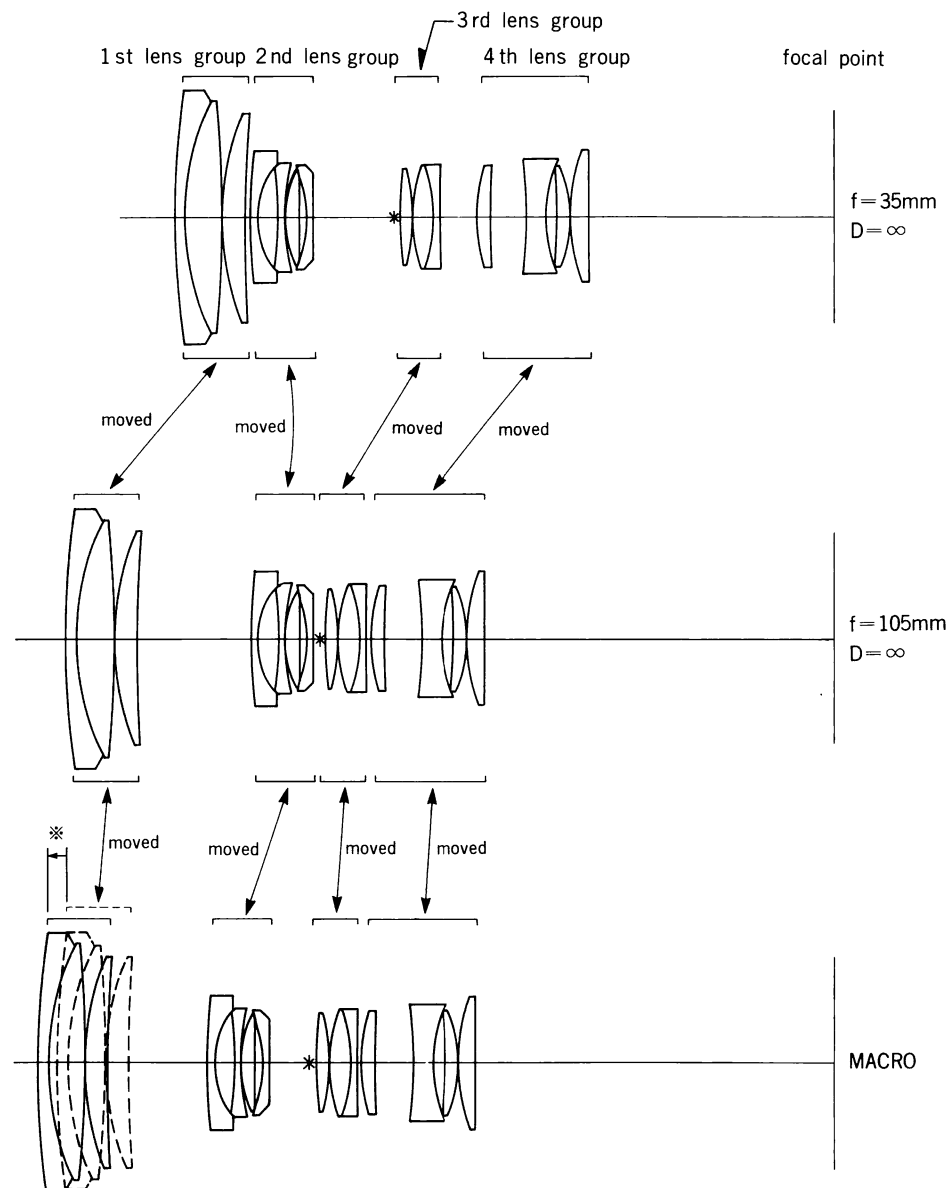
- 4-component mechanical-compensation zoom lens (positive, negative, positive and positive).

When zooming, 1st and 4th lens groups are moved together, 2nd 3rd lens groups are moved individually by rotating zoom operation ring.

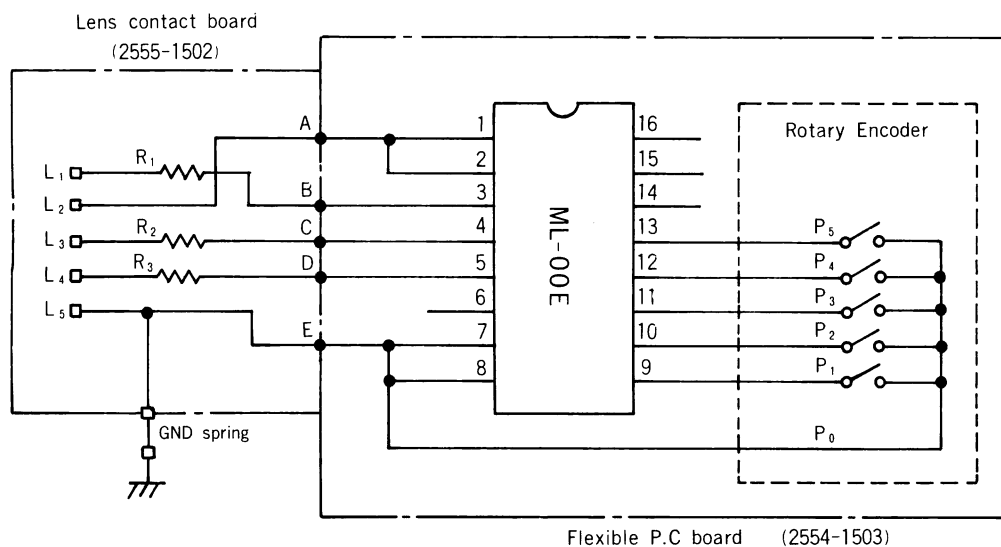
- The diaphragm parts are moved with 3rd lens group together without aperture diameter changing, effective-full-aperture is changed f/3.5 to f/4.5 by zooming operation. f/3.5:35mm f/4.5:105mm
- When focusing, 1st lens group (focusing lens group) is moved by rotating AF coupler or focusing ring.
- By rotating zoom operation ring from f=105mm to macro side, 1st and 4th lens groups, 2nd and 3rd lens groups are moved to make macro set.

(subject-to-camera distance (D)=1.5m, magnification 1:4)

(focusing lens group)



## ■ Wiring schematic diagram, printed wiring diagram



L<sub>1-5</sub> : Lens signal contact  
 R<sub>1-3</sub> : Printed resistor

ML-00E : ROM-IC  
 A-E : Soldering point  
 P<sub>0-5</sub> : Rotary encoder pattern switch  
 (ON/OFF at certain zooming point)

